

The longer this class of fishery work is neglected the greater will be the difficulties to be faced when it commences to be taken in hand. A praiseworthy effort has been made during the year by the Wellington Acclimatization Society for the encouragement of scientific research in connection with fresh-water fisheries. A grant of £400 per annum for three years has been guaranteed to the Victoria College for the purpose of founding a post-graduate research fellowship for the study of the conditions in the rivers of the district. It is a matter for regret that so far no suitably qualified candidate has presented himself.\*

To return to the whitebait: Measures for its conservation must be based on an understanding of the life-history of the species, about which very little is known at the present time. More especially we require to know its spawning-places and the extent of its migration. It is of importance to ascertain, for instance, whether the whitebait which run up a particular river are derived from parent fish which inhabited the same river, or whether they may be derived from the stock of some other river. It has been stated that shoals of whitebait are to be found in the open sea; but this needs scientific confirmation. Preliminary arrangements have been made for the investigation of these problems of whitebait biology and it is expected that in the course of the current year some useful light may be thrown upon this question.

The problem of better regulation of fishing operations has also received attention, especially with regard to the Hokitika fishing, where the present position is far from satisfactory, and involves the local Inspector in an undue amount of trouble and responsibility. It would appear that fresh legislation will be necessary before any fundamental improvement can be effected.

#### QUINNAT SALMON.

The trapping of quinnat salmon to be stripped for the hatchery at Hakataramea was carried out on the Hakataramea and Ahuriri Rivers. Heavy floods and debris rendered operations in the latter river extremely difficult, and only thirty-one fish were secured. The Hakataramea, however, was favoured by an unusually good run, and 594 fish were captured (285 males and 309 females), making a total of 625 fish, from which 1,076,000 ova were obtained. The eggs were of especially good quality this season. 100,000 were sent to Tasmania, 750,000 were used for the stocking of the Wairau River, and the balance hatched out and liberated at Hakataramea.

The quantity of fish cured at Hakataramea for marketing totalled 1,257 lb., the value being £52 15s. 10d. Though the supply was greatly in excess of the previous year's total of 292 lb., the demand was such that much more could have been marketed.

As foreshadowed in last year's report, the issue of salmon-netting licenses for the Waimakariri River was limited to four, and it was decided to give precedence to whole-time professional fishermen in preference to people who have other whole-time occupation. The total number of salmon reported as caught by the four license-holders was 767, having an aggregate weight of 8,542 lb., the average weight being approximately 11 lb.

In the Rangitata one netting license was taken out, but only three fish, of 52½ lb. total weight, were caught. It is clear that the lower reaches of the river are unsuitable for netting operations, owing to the roughness of the bottom and the rapid flow of the water.

Twenty-three returns received from holders of licenses for selling rod-caught quinnat salmon show that catches by angling ranged from sixty-eight fish per rod downwards, the average weight of the fish being 12½ lb.

The best fishing appears to have been obtained in the Rangitata. The season opened most promisingly, good catches being made in February and March, but towards the end of the latter month floods and discoloured waters became prevalent, and fishing of all kinds was considerably impeded and practically prevented in most of the rivers for the remainder of the season.

It is impossible to estimate the numbers of fish which ran up to spawn, but from all reports it would appear that a very satisfactory spawning took place, more especially in the Rangitata.

For the purpose of ascertaining the age, rate of growth, and other biological conditions of quinnat salmon running into the Waitaki, scale-samples have been collected from fish captured in connection with the hatchery operations at Hakataramea. This collection can represent only a very partial sample of the total run of quinnat salmon for the year. It is hoped that next year facilities will be available for the collection and study of a more comprehensive series, and that arrangements may be made for the examination of a whole season's catch of fish. The important conclusions to be drawn from the examination of scale-samples may be gathered from the report received last year from Professor Gilbert, Stanford University, California, who made a study of a small collection obtained from Canterbury rivers.

#### ATLANTIC SALMON.

The hatchery operations for the 1926 season were adversely affected by the occurrence of heavy floods in the Upukororo River, in which the salmon-trap for the capture of spawning fish was placed. The total number of fish caught for stripping was 428, of which 204 were males and 224 females. From the Te Anau Hatchery 612,000 ova were distributed. 430,000 were sent to the Kakahi hatchery, and liberated in the Wanganui River and tributaries, 150,000 were hatched out at Pembroke and liberated in the upper Clutha, and the balance were hatched and the fry liberated in streams flowing into Lake Te Anau.

\* Since this was written the fellowship has been granted to Captain J. S. Phillips, who has now commenced investigations upon the conditions in some of the trout-waters of the Wellington District.